

NOTES ON BROMELIACEAE, XV

Lyman B. Smith

MEXICO

TILLANDSIA CONCOLOR L. B. Smith, sp. nov.

A *T. fasciculata* Sw., cui affinis, foliis omnino cinereis, vaginis haud vel basi angustissime castaneis, scapo brevissimo vaginis foliorum oblecto differt.

Stemless; leaves many in a dense funnellform rosette, 20-30 cm. long, almost always exceeding the inflorescence, covered with subappressed cinereous scales throughout or with a narrow castaneous collar at base, thick, evidently fleshy, irregularly and coarsely rugose on drying; blades narrowly triangular, filiform-acuminate, involute, barely distinguishable from the sheaths, to 17 mm. wide at base; scape very short, concealed by the leaf-bases; scape-bracts subfoliaceous but small and with thin yellow glabrous bases; inflorescence simple or digitately compound from 2-4 spikes; primary bracts like the scape-bracts, much smaller than the floral bracts; spikes linear-lanceolate, acute, 9-13 cm. long with a number of reduced sterile bracts at base, 2-3 cm. wide, strongly complanate, densely many-flowered; floral bracts ovate, acute, 35-40 mm. long, exceeding the sepals, carinate, thin-coriaceous, nerved, glabrous, drying red and yellow or green; flowers subsessile; sepals lanceolate, acute, 23-32 mm. long, connate posteriorly; petals linear, 6 cm. long, tubular-erect, violet; stamens exserted. Pl. I, fig. 1: Habit x 1/2; fig. 2: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,321,075, collected on trees, 16 kilometers north-northeast of Tehuantepec along the Pan-American highway (Routes 185 & 190), altitude 50 meters or less, July 7, 1959, by Robert Merrill King (No. 1385). Isotype (MICH).

MEXICO: Guerrero: El Tibor, alt. 100 m., August 23, 1898, Langlassé 297 (US). Oaxaca: Picacho to San Geronimo, July 1914, Purpus 7414 (US). On tree, La Ventosa, 7 km. east of Salina Cruz, alt. 0-50 m., July 3, 1959, King 1295 (MICH, US). About 4 km. north-northeast of Tehuantepec along Trans-Isthmian highway (Routes 185 & 190), alt. 0-50 m., July 5, 1959, King 1336 (MICH, US). Beach of Laguna Superior, south of Juchitán, near village of Xandani, alt. 0-10 m., July 11, 1959, King 1556 (MICH, US). Chiapas: Cliffs and rocky gorge above Rancho San Luis about 2 miles north (Roblada), alt. 825 m., March 23, 1949, Carlson 1546 (F, US).

GREATER ANTILLES

HOHENBERGIA

Jamaica is the great center of Hohenbergia north of the equa-

tor and so it is not surprising that the ample collections of the Institute of Jamaica should enlarge and improve our knowledge of the genus. The following synopsis will serve to relate the new species proposed and also to place the old ones in a more natural order.

1. Floral bracts rounded or broadly acute. Jamaica.
2. Sepals exerted above the floral bracts; spikes glabrous.
3. Floral bracts strongly nerved, stramineous when dry.
  1. H. brittoniana
3. Floral bracts even or nearly so, dark castaneous when dry.
4. Leaf-blades serrate; mucro of the floral bracts minute; sepals unarmed.....2. H. fawcettii
4. Leaf-blades entire or obscurely serrulate toward base; mucro of the floral bracts to 4 mm. long; sepals mucronate.
  3. H. jamaicana
2. Sepals covered by the floral bracts; spikes brown-tomentose-lepidote.
5. Floral bracts even or nearly so.
6. Spikes stipitate.....4. H. eriostachya
6. Spikes sessile.
7. The spikes densely aggregated, at least toward the summit of the inflorescence.....5. H. polycephala
7. The spikes all remote.....6. H. gnetacea
5. Floral bracts strongly nerved.
8. Lowest stipes about as long as the spikes; floral bracts not over 13 mm. long.....7. H. inermis
8. Lowest stipes much shorter than the spikes; floral bracts 20 mm. long.
9. Wing of the posterior sepals broadly rounded at apex; floral bracts rounded.....8. H. urbaniana
9. Wing of the posterior sepals acuminate; floral bracts broadly acute.....9. H. proctori
1. Floral bracts acuminate.
10. Leaf-blades acuminate. Porto Rico.....10. H. attenuata
10. Leaf-blades broadly rounded and apiculate.
11. Floral bracts 25 mm. long. Porto Rico.....11. H. antillana
11. Floral bracts not over 15 mm. long.
12. Scape-bracts shorter than the internodes; spikes subglobose. Porto Rico.....12. H. portoricensis
12. Scape-bracts longer than the internodes.
13. Lower spikes shorter than their stipes. Jamaica.
14. Primary bracts much shorter than the stipes; apical spikes distinctly stipitate; lower floral bracts narrow.....13. H. distans
14. Primary bracts about equaling or exceeding the lower stipes; apical spikes sessile or subsessile.
15. Branches of the inflorescence stiffly spreading, longer than the primary bracts; scape-bracts barely exceeding the internodes.....14. H. abbreviata
15. Branches of the inflorescence reflexed; shorter than the lower primary bracts; scape-bracts to 4 times

- the internodes.....15. H. laesslei  
 13. Lower spikes equaling or longer than their stipes.  
 16. Mucro nearly or quite as long as the base of the sepal.  
 17. Spikes subsessile, erect; inflorescence very dense  
 except sometimes the extreme base. Jamaica.  
 16. H. spinulosa  
 17. Spikes distinctly stipitate and somewhat spreading;  
 inflorescence rather lax. Grand Cayman.  
 17. H. caymanensis  
 16. Mucro much shorter than the base of the sepal.  
 18. Spikes subglobose or broadly ellipsoid, short; lower  
 primary bracts not much exceeding the branches.  
 Cuba, Jamaica.....18. H. penduliflora  
 18. Spikes cylindric, to 6 cm. long; lower primary bracts 3  
 times as long as the branches. Jamaica.  
 19. H. negrilensis

1. HOHENBERGIA BRITTONIANA L. B. Smith, Contr. Gray Herb. 98:8,  
pl. 1, figs. 12-14. 1932; No. Am. Fl. 19:223. 1938.  
 JAMAICA: Without further locality.
2. HOHENBERGIA FAWCETTII Mez, Symb. Ant. 2:254. 1900; No. Am. Fl.  
 19:223. 1938.  
 JAMAICA: Blue Mountains.
3. HOHENBERGIA JAMAICANA L. B. Smith & G. R. Proctor, sp. nov.  
 A H. fawcettii Mez, cui affinis, laminis foliorum inermibus  
 vel ad basin versus obscure serrulatis, bracteis florigeris  
 longiore mucronatis, sepalis armatis differt.  
 Flowering over 12 dm. high; leaves incompletely known, minute-  
 ly and inconspicuously appressed-lepidote throughout; sheaths  
 broadly elliptic but only a little wider than the blades; blades  
 ligulate, broadly rounded and apiculate, 7-12 cm. wide, entire or  
 sparsely and obscurely serrulate toward base; scape stout, gla-  
 brous; scape-bracts large and evidently imbricate but soon deci-  
 duous; inflorescence laxly bipinnate or the lowest branches with  
 2 sessile spikes, glabrous; primary bracts lanceolate, thin,  
 about equaling the lower branches; stipes to 35 mm. long; spikes  
 cylindric, 5-8 cm. long; floral bracts broadly ovate, much ex-  
 ceeded by the sepals, bearing a mucro to 4 mm. long, even or  
 nearly so, dark castaneous when dry; posterior sepals elliptic,  
 strongly asymmetric with a lateral wing equaling the terminal mu-  
 cro, 5 mm. long. Pl. I, fig. 3: Branch x 1/2; fig. 4: Sepal x 1.  
 Type in the Institute of Jamaica, No. 3463, collected on tree,  
 1 1/2 miles north of Catadupa, St. James Parish, Jamaica, alti-  
 tude ca. 375 meters (1250 feet), April 5, 1952, by George R.  
 Proctor (No. 6543).  
 Paratype: JAMAICA: St. James Parish: On roadside tree, Mt.  
 Carey District, 1 mile south of Anchovy, alt. 195 m. (650 ft.),  
 July 7, 1957, G. R. Proctor 16452 (IJ).
4. HOHENBERGIA ERIOSTACHYA Mez, Symb. Ant. 2:255. 1900; No. Am.

fl. 19:221. 1938.

JAMAICA: Eastern.

5. HOHENBERGIA POLYCEPHALA (Baker) Mez in DC. Monogr. Phan. 9: 133. 1896; No. Am. Fl. 19:221. 1938.  
Aechmea polycephala Baker, Journ. Bot. 17:164. 1879.  
JAMAICA: Widespread.
6. HOHENBERGIA GNETACEA Mez in Mart. Fl. Bras. 3, pt. 3:272, pl. 60, fig. 1. 1891; No. Am. Fl. 19:221. 1938.  
JAMAICA: Without further locality.  
Note: This may be only an aberrant specimen of H. polycephala.
7. HOHENBERGIA INERMIS Mez, Repert. Sp. Nov. Fedde 12:414. 1913; No. Am. Fl. 19:222. 1938.  
JAMAICA: Western interior.
8. HOHENBERGIA URBANIANA Mez, Symb. Ant. 2:253. 1900; No. Am. Fl. 19:222. 1938.  
JAMAICA: Central, especially Rio Minho upper valley.
9. HOHENBERGIA PROCTORI L. B. Smith, sp. nov.  
A H. urbaniana Mez, cui valde affinis, bracteis florigeris acutis, sepalis posterioribus acuminatis differt.  
Forming massive clumps (! Proctor); leaves rosulate, to 7 dm. long, minutely and inconspicuously appressed-lepidote throughout, concolorous; sheaths broadly elliptic but only a little wider than the blades; blades ligulate, broadly rounded and apiculate, 8-9 cm. wide, entire or sparsely serrulate toward base; scape stout, white-flocculose, becoming glabrous with age; scape-bracts erect, lanceolate, about twice as long as the internodes; inflorescence bipinnate, lax except at apex, 20-26 cm. long, glabrous at least with age; primary bracts like the scape-bracts, shorter than the branches; stipes stout, flattened, the lowest 1-2 cm. long; spikes ellipsoid to cylindrical, 6-12 cm. long, 20-25 mm. in diameter; floral bracts broadly ovate, broadly acute with a mucro 2 mm. long, to 2 cm. long, exceeding the sepals, strongly nerved, stramineous when dry; posterior sepals triangular with an acuminate inconspicuous wing, 12 mm. long including the 1-2 mm. mucro, short-connate; ovary compressed, alate continuous with the keels of the posterior sepals. Pl. I, fig. 5: Branch x 1/2; fig. 6: Sepal x 1.  
Type in the U. S. National Herbarium, No. 1,959,950, collected on tree, 1 mile north of Four Paths, along road to Ginger Hill, St. Elizabeth Parish, Jamaica, altitude ca. 225 meters (750 feet), April 6, 1952, by George R. Proctor (No. 6567). Isotype in the Institute of Jamaica.  
Paratypes: JAMAICA: St. Elizabeth Parish: On tree, 1 mile south of Accompong, alt. 360 m. (1200 ft.), May 22, 1953, H. Anderson s. n. (IJ). Westmoreland Parish: On trunks of large trees, Lenox District, 1 mile north of Hopeton, alt. ca. 360 m. (1200 ft.), March 9, 1956, G. R. Proctor 11716 (IJ).

10. HOHENBERGIA ATTENUATA Britton in Britton & Wilson, Sci. Surv. Porto Rico 5:134. 1923; No. Am. Fl. 19:224. 1938.  
PORTO RICO: Eastern, region of Sierra de Naguabo.
11. HOHENBERGIA ANTILLANA Mez in DC. Monogr. Phan. 9:137. 1896; No. Am. Fl. 19:224. 1938.  
PORTO RICO: Widespread.
12. HOHENBERGIA PORTORICENSIS Mez in DC. Monogr. Phan. 9:136. 1896; No. Am. Fl. 19:225. 1938.  
PORTO RICO: Eastern, region of Sierra de Naguabo.
13. HOHENBERGIA DISTANS (Griseb.) Baker, Saund. Refug. Bot. 4: sub pl. 284. 1871; No. Am. Fl. 19:224. 1938.  
Aechmea distans Griseb. Fl. Brit. W. Ind. 592. 1864.  
JAMAICA: Dolphin Head, Hanover Parish.
14. HOHENBERGIA ABBREVIATA L. B. Smith & G. R. Proctor, sp. nov.  
H. distantis (Griseb.) Baker atque H. laesslei L. B. Smith affinis, a priore bracteis primariis bases steriles ramorum infimorum subaequantibus, spicis supremis subsessilibus, a posteriore scapi bracteis wix imbricatis, inflorescentiae ramis patentibus bracteas primarias superantibus distinguenda.  
Flowering 12-13 dm. high; leaves to 7 dm. long, covered throughout with small pale appressed inconspicuous scales; sheaths broadly elliptic, distinctly wider than the blades, brown-tinged; blades ligulate, broadly rounded and apiculate, 7-11 cm. wide, laxly but regularly serrulate; scape slender, white-flocculose, becoming glabrous with age; scape-bracts erect, lanceolate, barely exceeding the internodes; inflorescence laxly bipinnate with the upper spikes short-stipitate, 43-47 cm. long, glabrous; primary bracts linear, acuminate, shorter than the lowest branches but about equaling their sterile bases; stipes slender, flattened, to 7 cm. long; spikes ellipsoid to subglobose, 15-25 mm. long; floral bracts broadly ovate, acuminate to a small slender mucro, 5 mm. long, much exceeded by the sepals, thin, nerved, stramineous when dry; sepals strongly asymmetric with a produced lateral wing equaling or exceeding the terminal mucro, 5 mm. long, short-connate; petals white, bearing 2 highly adnate infundibuliform appendages. Pl. I, fig. 7: Branch x 1/2; fig. 8: Sepal x 1.  
Type in the U. S. National Herbarium, No. 2,113,121, collected on rocks, wooded limestone hill, vicinity of Ramgoat Cave, Cockpit Country, Trelawny Parish, Jamaica, altitude ca. 450 meters (1500 feet), October 22, 1955, by George R. Proctor (No. 11048). Isotype in the Institute of Jamaica.  
Paratypes: JAMAICA: Trelawny Parish: On shaded limestone rocks, vicinity of Ramgoat Cave, alt. ca. 450 m. (1500 ft.), July 4, 1955, Howard & Proctor 14435 (IJ). St. Ann Parish: On limestone ledges of steep wooded hillside, 1 1/2 miles due south of Gibraltar P. O., alt. 600 m. (2000 ft.), July 14, 1956, G. R. Proctor 15522 (IJ).

15. HOHENBERGIA LAESSLEI L. B. Smith, Bromel. Soc. Bull. 6:52, fig. 1956.  
JAMAICA: Western Cockpit Country, St. James Parish.
16. HOHENBERGIA SPINULOSA Mez, Symb. Ant. 2:253. 1900; No. Am. Fl. 19:225. 1938.  
JAMAICA: Hills of Manchester and St. Elizabeth Parishes.
17. HOHENBERGIA CAYMANENSIS Britton ex L. B. Smith, Proc. Am. Acad. 70:150, pl. 1, figs. 5, 6. 1935; No. Am. Fl. 19:226. 1938.  
GRAND CAYMAN.
18. HOHENBERGIA PENDULIFLORA (A. Rich.) Mez in DC. Monogr. Phan. 9:135. 1896; No. Am. Fl. 19:225. 1938.  
Pitcairnia penduliflora A. Rich. in Sagra Hist. Cuba 11:262. 1850.  
CUBA: Widespread. JAMAICA: Northern and eastern.
19. HOHENBERGIA NEGRILENSIS Britton ex L. B. Smith, Proc. Am. Acad. 70:151, pl. 1, figs. 7, 8. 1935; No. Am. Fl. 19:221. 1938.  
JAMAICA: Southwestern.

## NORTHWESTERN SOUTH AMERICA

- PITCAIRNIA BRONGNIARTIANA André, Énum. Bromél. 5. Dec. 13, 1888; Rev. Hort. 60:565. Dec. 16, 1888.  
Pitcairnia klabochiana E. Morr. ex Mez in DC. Monogr. Phan. 9: 414. 1896.  
COLOMBIA: Nariño: On rocks by Río Cuaiqueres, May 1876, André 3394 (K, type, GH photo 2576).  
"ECUADOR": 1879, Klaboch (LG, type of Pitcairnia klabochiana E. Morr. ex Mez, GH photo).
- TILLANDSIA TOVARENSIS Mez in DC. Monogr. Phan. 9:769. 1896.  
Tillandsia spiculosa Griseb. Nachr. Ges. Wiss. Goett. for 1864 17. 1865. In part, not as to type.  
Tillandsia arnoldiana Harms, Notizblatt 10:579. 1929.  
VENEZUELA: Aragua: Between Petaquira and Colonia Tovar, alt. 2300 m., 1857, Fendler 2446 (GOET, type; US phot. 5564, 5565).  
COLOMBIA: Magdalena: Sclerophyllous woods, "El Mamon," Sierra Nevada de Santa Marta, alt. 2200 m., February 1928, A. Schultze 1133 (B, type of Tillandsia arnoldiana Harms; F, phot. 11478).  
Also found in ECUADOR and PERU.

## BRAZIL

PITCAIRNIA LIMAE L. B. Smith, sp. nov.

A P. pectinata L. B. Smith, cui verisimiliter affinis, scapi bracteis omnibus internodia superantibus, spinis brevibus latis-que praeditis, sepalis oblongis rotundato-apiculatis differt.

Flowering plant over 65 cm. high; leaves of the rosette unknown, those at the base of the scape up to 22 cm. long, linear-lanceolate, acuminate, 14 mm. wide, entire, glabrous above, densely pale-lepidote beneath, involute-subulate toward apex; scape erect, 5-8 mm. in diameter, soon glabrous; scape-bracts erect, exceeding the internodes but the upper ones narrow and revealing most of the scape, lanceolate, acuminate, serrulate; inflorescence simple, racemose, subax, secund-flowered toward base, 21 cm. long, nearly glabrous; floral bracts narrowly lance-triangular, to 25 mm. long, exceeding the pedicels, the lowest serrulate; pedicels slender, 8 mm. long; flowers divergent to spreading, red; sepals oblong, rounded and apiculate, 21 mm. long; petals 55 mm. long, naked; ovary about half superior; ovules alate. Pl. I, fig. 9: Lowest flower x 1/2; fig. 10: Sepal x 1.

Type in the Instituto de Pesquisas Agronômicas, Recife, No. 8580, collected on the crest of the Serra de Maranguape, State of Ceará, Brazil, altitude ca. 1050 meters, November 23, 1955, by Dárdano de A. Lima (No. 55-2353).

*VRIESEA CEARENSIS* L. B. Smith, sp. nov.

*V. longiscapa* Ule in systema mea (Bromeliaceae of Brazil, pp. 102, 120) proxima sed foliis utrinque cretaceis, spicis pluribus paucifloris, bracteis floribusque subduplo minoribus differt.

Evidently stemless, flowering over 6 dm. high; leaves to 31 cm. long, concolorous, covered on both sides with appressed cretaceous brown-centered scales; sheaths elliptic, ca. 8 cm. long; blades ligulate, broadly rounded and apiculate, 4 cm. wide, flat; scape erect, 7 mm. in diameter at base; scape-bracts erect, imbricate, the lowest foliaceous, the highest elliptic, broadly acute and apiculate; inflorescence laxly compound from 5 spikes, 20 cm. long, obscurely punctulate-lepidote; primary bracts like the upper scape-bracts, covering the prophyllate bases of the lateral spikes, suberect; lateral spikes subspreading, subdensely 6-7-flowered, the fertile part 4 cm. long, terminal spike erect on the end of a scape-like peduncle with several imbricate bracts, 11-flowered; rhachis stout, geniculate, angled; floral bracts spreading and becoming secund with the flowers, broadly ovate, obtuse, to 10 mm. long, slightly more than twice the internodes, about half as long as the sepals, ecarinate, thin-coriaceous, pale brown when dry; flowers spreading, short-pedicellate; sepals elliptic, rounded, 17 mm. long, coriaceous, even or faintly nerved; petals ca. 22 mm. long, bearing 2 large lanceolate acuminate scales at base; stamens included, filaments somewhat thickened apically. Pl. I, fig. 11: Lateral branch x 1/2; fig. 12: Sepal x 1.

Type in the Instituto de Pesquisas Agronômicas, Recife, No. 8612, collected on tree, Serra de Maranguape, State of Ceará, Brazil, November 24, 1955, by Dárdano de A. Lima (No. 55-2385).

*ORTHOPHYTUM DISJUNCTUM* L. B. Smith var. *MINOR* L. B. Smith, var. nov.

A var. disjuncto omnibus partibus valde minoribus differt.  
Flowering 15 cm. high; sepals 9 mm. long.

Type in the Instituto de Pesquisas Agronômicas, Recife, No. 1794, collected on granitic outcrop of mountain, Uzina Agua Branca, Fazenda Pelada, Município of Quipapa, State of Pernambuco, Brazil, July 12, 1950, by Dárdano de A. Lima (No. 50-592).

Aechmea subgenus Ortgiesia (Regel) Mez in Mart. Fl. Bras. 3, pt. 3:308. 1892.

Ortgiesia Regel, Gartenflora 16:193, pl. 547. 1867. Type: O. tillandsioides Regel.

Aechmea subgenus Hoplophytum Mez in Mart. Fl. Bras. 3, pt. 3:306. 1892. As to description, not as to Hoplophytum Beer.

In distinguishing the subgenus Hoplophytum in Aechmea, Mez ostensibly based it on Beer's genus of the same name: "Subgenus HOPLOPHYTUM Beer (Gen.)." However, he placed the type of Beer's Hoplophytum (Billbergia rhodo-cyanea Lem. or Aechmea fasciata (Lindl.) Baker) in his subgenus Ortgiesia. The only species included in both Beer's genus Hoplophytum and Mez's subgenus Hoplophytum is H. purpureo-roseum Beer with its synonym H. suaveolens Beer, and this species does not fit Mez's definition. Its sepals are very short-connate with a relatively small mucro and by his own treatment they should place the species in the subgenus Aechmea (his Euaechmea).

Although he gave no explanation, Mez evidently was following E. Morren and typified his subgenus Hoplophytum on Aechmea coelestis (C. Koch) E. Morr. In any event, Mez's concept of the subgenus is left without a name and it does not seem worthwhile to provide one, as his distinctions prove much too feeble especially in the light of recent collections. Except for Aechmea purpurea-rosea, all the species in his Hoplophytum should be included in subgenus Ortgiesia on the basis of their high-connate long-mucronate sepals. On the other hand only the type remains of the species which he placed originally in Ortgiesia.

#### ARGENTINA

Dyckia floribunda Griseb. Symb. Argent. in Goett. Abh. 24:331. 1879.

Dyckia gilliesii Baker, Handb. Bromel. 136. 1889.

ARGENTINA: Córdoba: Sierra Chica, Quebrada de Colanchanga, cerca del Cerro Pan de Azúcar, December 1875, Hieronymus 566 (GOET, type); same, November 10, 1877, Hieronymus s. n. (B, F phot. 11433; US). Las Achiras, Gillies s. n. (K, type of Dyckia gilliesii Baker; phot. GH).



## Plate I

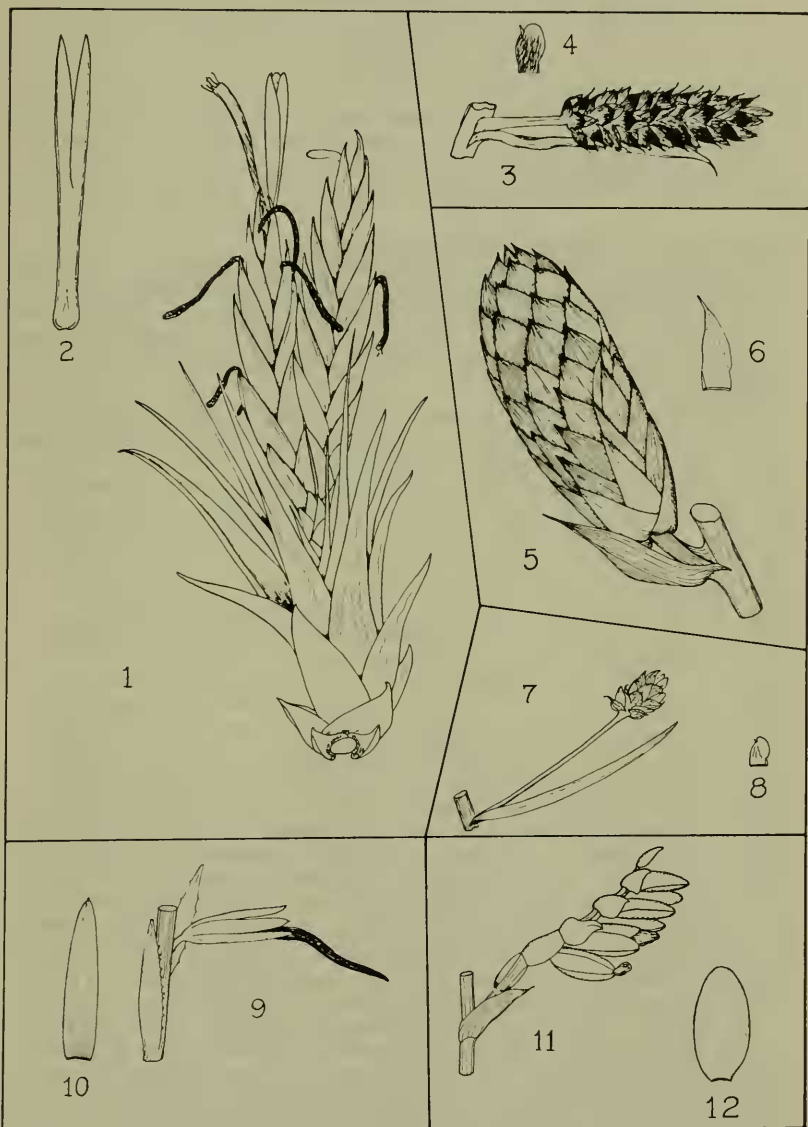


Fig. 1, 2: *Tillandsia concolor*; fig. 3, 4: *Hohenbergia jamaicana*;  
 fig. 5, 6: *H. proctori*; fig. 7, 8: *H. abbreviata*; fig. 9-10:  
*Pitcairnia limaе*; fig. 11, 12: *Vriesea cearensis*.